

WHAT IS CLAIMED IS:

1. An apparatus comprising:

a thermal conductor; and

a portion of solder material coupled to a first side of the thermal conductor,

5 wherein a voidless interface exists between the portion of solder material and the first side of the thermal conductor.

2. An apparatus according to Claim 1, further comprising:

a second portion of solder material coupled to a second side of the thermal

10 conductor,

wherein a second voidless interface exists between the second portion of solder material and the second side of the thermal conductor.

3. An apparatus according to Claim 2, wherein a surface area of the second portion

15 of solder material is greater than a surface area of the first portion of solder material.

4. An apparatus comprising:

an integrated heat spreader comprising a portion of solder material and a thermal conductor,

20 wherein a voidless interface exists between the solder material and a first side of the thermal conductor.

5. An apparatus according to Claim 4, further comprising:

an integrated circuit die coupled to a first side of the integrated heat spreader,

wherein the portion of solder material is disposed on the first side of the integrated heat spreader.

6. An apparatus according to Claim 5, further comprising:

5 an integrated circuit package coupled to the integrated circuit die.

7. An apparatus according to Claim 5, further comprising:

a heat sink coupled to a first side of the integrated heat spreader.

10 8. An apparatus according to Claim 7, wherein the portion of solder material is disposed on a second side of the integrated heat spreader.

9. An apparatus according to Claim 8, wherein the integrated heat spreader comprises a second portion of solder material disposed on the first side of the integrated heat spreader.

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10. An apparatus according to Claim 9, wherein a surface area of the second portion of solder material is greater than a surface area of the first portion of solder material.

11. A method comprising:

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removing portions of solder material from a first side of a composite strip, the composite strip comprising a strip of solder material clad to the first side of a strip of thermal conductor,

wherein removing the portions of solder material leaves a plurality of discontinuous portions of solder material clad to the first side of the strip of thermal conductor.

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12. A method according to Claim 11, further comprising

removing second portions of solder material from a second side of the composite strip, the composite strip comprising a second strip of solder material clad to the second side
5 of the strip of thermal conductor,

wherein removing the second portions of solder material leaves a plurality of discontinuous portions of solder material clad to the second side of the strip of thermal conductor.

10. 13. A method according to Claim 11, further comprising:

cladding the strip of solder material to the first side of the strip of thermal conductor.

14. A method according to Claim 11, wherein one of the plurality of discontinuous portions of solder material is associated with a portion of the strip of thermal conductor, and
15 further comprising:

detaching the one of the plurality of discontinuous portions of solder material and the associated portion of the strip of thermal conductor from the composite strip.

15. A method according to Claim 14, further comprising:

20 forming an integrated heat spreader from the one of the plurality of discontinuous portions of solder material and the associated portion of the strip of thermal conductor.

16. A method comprising:

placing a piece of solder material on a thermal conductor to substantially create a
25 point or line contact between the piece of solder material and the thermal conductor;

applying pressure to the piece of solder material to create a voidless interface between the piece of solder material and the thermal conductor.

5 17. A method according to Claim 16, wherein the piece of solder material substantially comprises a sphere.

18. A method according to Claim 16, wherein the piece of solder material substantially comprises a hemisphere.

10 19. A method according to Claim 16, wherein the piece of solder material substantially comprises a cylinder.

20. A system comprising:

a microprocessor comprising:

15 an integrated heat spreader comprising a portion of solder material and a thermal conductor, wherein a voidless interface exists between the solder material and a first side of the thermal conductor; and

an integrated circuit die coupled to the solder material; and

a double data rate memory electrically coupled to the integrated circuit die.

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21. A system according to Claim 20, further comprising:

a motherboard electrically coupled to the integrated circuit die and to the memory.

22. A system according to Claim 20, the integrated heat spreader further comprising:

25 a second portion of solder material,

wherein a second voidless interface exists between the second portion of solder material and a second side of the thermal conductor.

23. A system according to Claim 22, the microprocessor further comprising:

5 a heat sink coupled to the second solder material.